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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/783,849

02/19/2004

Chien-Hua Chen

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01/13/2005

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

NGUYEN, DAO H

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,849

Applicant(s)

CHEN ET AL.

Examiner

Dao H Nguyen

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-34 is/are rejected.
- 7) ☒ Claim(s) 17 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0204.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. In response to the communications dated 02/19/2004 through 12/27/2004, claims 1-34 are active in this application.

### **Acknowledges**

2. Receipt is acknowledged of the following items from the Applicant.
  - a. Information Disclosure Statement (IDS) filed on 02/19/2004. The references cited on the PTOL 1449 form have been considered.

Applicant is requested to cite any relevant prior art if being aware on form PTO-1449 in accordance with the guidelines set for in M.P.E.P. 609.

- b. Applicant made a provisional election without traverse to prosecute the invention of Group I, claims 17-34, drawn to a semiconductor device. Affirmation of this election was made in the Response to Restriction Requirement filed 10/18/2004.

Claims 1-16 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected group there being no allowable generic or linking claim.

Applicant has the right to file a divisional application covering the subject matter of the non-elected claims.

### **Specification**

3. The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Objections**

4. The claim is objected to for the following reason:

In claim 17, line 4, the period "." at the end of the line should be changed to a semicolon --;--.

In claim 24, line 2, the phrase "the fill hole" should be changed to --the fill port-- for consistency requirement.

Appropriate correction is required.

### **Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim(s) 17-34 is/are rejected under 35 U. S. C. § 102 (b) as being anticipated by U.S. Patent No. 5,723,904 to Shiga.

Regarding claim 17, Shiga discloses a micro-electro-mechanical system (MEMS) package for hermetically sealing a MEMS device, as shown in figs. 2-5 comprising:

the MEMS package having a fill port 44, wherein the fill port 44 is a through hole capable of having at least one medium inserted through the fill port (Note: since the fill port is a through hole used to insert a sealant, it is therefore definitely has the capability for inserting various materials into, and through it, especially non-solid materials, as well as creating a vacuum within the package);

at least one sealant 50 placed within the fill port 44 wherein the at least one sealant 50 substantially fills the fill port 44; and

a metal cap 42 placed over the at least one sealant 50 in a specific pattern wherein the metal cap 42 substantially hermetically seals the fill port 44. See fig. 2, and col. 4, lines 4-61.

Regarding claim 18, Shiga discloses a MEMS package further comprising a MEMS device 1 placed within the MEMS package. See fig. 2.

Regarding claim 19, Shiga discloses a MEMS package further comprising a bond ring 3 surrounding the MEMS device. See fig. 2.

Art Unit: 2818

Regarding claim 20, Shiga discloses a MEMS package wherein the fill port 44 is located in a break in the bond ring 3. See fig. 2.

Regarding claim 21, Shiga discloses a MEMS package further comprising a lid disposed above the bond ring 3. See fig. 2.

Regarding claim 22, Shiga discloses a MEMS package wherein the fill port 44 is a through-hole located in the lid 41. See fig. 2.

Regarding claim 23, Shiga discloses a MEMS package comprising all claimed limitations. See col. 9, lines 37-38.

Regarding claims 24-25, Shiga discloses a MEMS package comprising all claimed limitations. See col. 4, lines 33-46.

Regarding claims 26-30, Shiga discloses a MEMS package comprising all claimed limitations. See the note in the rejection of claim 17.

Regarding claim 31, Shiga discloses a MEMS package wherein the at least one sealant is cured using a low temperature curing process and the MEMS package is cleaned. This is inherent in order to protect the device from the impact of high temperature and of dust.

Regarding claim 32, Shiga discloses the MEMS package wherein the metal cap is formed over the at least one sealant using a low temperature process selected from the group consisting of electron beam deposition and physical vapor deposition. This is well known in the art.

Regarding claim 33, Shiga discloses a MEMS package comprising a metal cap made from one or more types of metal, said one or more types of metal selected from the group consisting of gold, titanium, silver, aluminum, chromium, and tantalum. See col. 4, , lines 24-32.

Regarding claim 34, Shiga discloses a micro-electro-mechanical system (MEMS) package for hermetically sealing a MEMS device, as shown in figs. 2-5, comprising:

- a means for filling a MEMS package through a fill port 44 with at least one medium;

- a means for plugging the fill port 44 in the MEMS package with at least one sealant 50, and

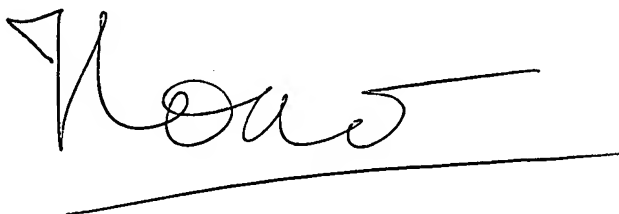
- a means for hermetically sealing a metal cap 42 in a specific pattern over the at least one sealant 50. Note that is inherent that all of these means must be disclosed by Shiga, because in order to perform a task (fill the fill port, sealing the cap, ect.), Shiga must have means:

### Conclusion

7. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao H. Nguyen whose telephone number is (571)272-1791. The examiner can normally be reached on Monday-Friday, 9:00 AM – 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax numbers for all communication(s) is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1625.



Dao H. Nguyen  
Art Unit 2818  
January 6, 2005



David Nelms  
Supervisory Patent Examiner  
Technology Center 2800